a compression chamber [(20)],

a suction chamber [(8)] connected via at least one suction valve [(4,21; 4,22)] to said compression chamber,

an outlet chamber [(15)] connected via at least one outlet valve [(17, 18)] to said compression chamber, and

an [admixture] additional chamber [(7)] connected during said idling operation to said compression chamber [(20)] via an [admixture] additional valve.

2. (Amended) The gas compressor of Claim 1, further comprising a closing valve [(18,22; 18,30)] for locking the connection between said compression chamber and said outlet chamber during said idling operation.

3. (Amended) The gas compressor of Claim 2, wherein said compression chamber [(20)] and said [admixture] additional chamber [(7,20,35)] are subjected to a predetermined pressure during said idling operation.

4. (Amended) The gas compressor of Claim 1, further comprising an overpressure valve [(9)] for limiting the pressure in the compression chamber [(20)] and the [admixture] additional chamber [(7,20,35)].

5. (Amended) The gas compressor of Claim 1, further comprising an extra suction valve [(19, 21; 19,22)] for connecting said compression chamber [(20)] to an [overpressure free relief chamber] atmospheric pressure chamber ~~environment~~.

6. (Amended) The gas compressor of Claim 5, wherein said [additional] extra suction valve is located between said [admixture] additional chamber and said [relief chamber] atmospheric pressure chamber ~~environment~~.

7. (Amended) The gas compressor of Claim 1, wherein said suction chamber [(8)] is surrounded by said [admixture] additional chamber.

8. (Amended) The gas compressor of Claim 7, wherein said suction chamber comprises an insert [(36)].

9. (Amended) The gas compressor of claim 1, wherein said compression chamber [(20)] is a first compression chamber, said suction chamber [(8)] is a first suction chamber, said suction valve [(4, 21; 4, 22)] is a first suction valve, said outlet chamber [(15)] is a first outlet chamber, said outlet valve [(17, 18)] is a first outlet valve, said [admixture] additional valve [(10, 21; 10, 22)] is a first [admixture] additional valve and said gas compressor further comprises

at least one additional compression chamber [(20')], the size of which changes in opposition to the size of the first compression chamber [(20)],

at least one additional suction chamber [(8)] connected to said additional compression chamber [(20')] via at least one suction valve [(4, 31)],

an additional outlet chamber connected via at least one additional outlet valve [(17,18)] to said additional compression chamber [(20')],

a channel [(35)] connecting said first compression chamber [(20)] to said additional compression chamber [(20')],

said channel [(35)] and one of said compression chambers [(20; 20')] forming an [admixture] additional chamber associated with the other compression chamber [(20; 20')],

said first [admixture] additional valve [(10,21; 10,22)] connecting said first compression chamber [(20)] with said channel [(35)], and

at least one other additional [admixture] valve [(10,30)] connecting said additional compression chamber [(20')] with said channel [(35)] during said idling operation.

14 ~~12~~. (Amended) The gas compressor of Claim 9, further comprising at least two closing valves [(18, 22;18, 30)] for locking the connections between said compression chambers [(20, 20')] and said outlet chambers during said idling operation.

15 ~~13~~. (Amended) The gas chamber of Claim 14 ~~12~~, wherein said compression chambers [(20;20')] and said channel are subjected to a predetermined pressure during said idling operation.

16 ~~14~~. (Amended) The gas compressor of Claim 9, further comprising an overpressure valve [(9)] for limiting pressure in said compression chambers [(20, 20')] and the channel [(35)].

17 ~~15~~. (Amended) The gas compressor of Claim 9, further comprising at least one extra suction valve [(19,20; 19, 22)] for connecting said compression chambers [(20, 20')] to an [overpressure relief chamber] atmospheric pressure chamber ~~environment~~.

18 ~~16~~. (Amended) The gas compressor of Claim 17 ~~15~~, wherein said extra suction valve [(19,21; 19,22)] is located between said channel and said [relief chamber] atmospheric pressure chamber ~~environment~~.

11 ~~17~~. (Amended) The gas compressor of Claim 10, wherein said combined suction chamber [(8)] is surrounded by said channel [(35)].

12 ~~18~~. (Amended) The gas compressor of Claim 11 ~~17~~, wherein said combined suction chamber [(8)] is formed by an insert [(36)].